



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,504	11/27/2001	Hiroo Matsunaga	Q65011	8148

7590 09/09/2004

SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
----------	--------------

1733

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,504

Applicant(s)

MATSUNAGA ET AL.

Examiner

Steven D. Maki

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-14 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

1) A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8-9-04 has been entered.

2) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3) Claims 1-3 and 5-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 2, the scope and meaning of the venting gap formed "... to extend across the full width of the side ring portion and open to an outside of the mold" is unclear. There is no antecedent basis for "the full width of the side ring portion". More importantly, a side ring portion can have several different widths. Which width of the side ring portion is being claimed? If more than two venting gaps are used, does the above quoted language require all of the venting gaps to have the same width - the "full width". For example, figure 3 of applicant's disclosure shows a side ring portion comprising sub-rings 7e, 7d and 7c. Since each of sub-rings 7e, 7d and 7c have different widths, the side ring portion necessarily has different widths. To which sub-ring width does the claimed "full width" correspond? Furthermore, each of the sub-rings 7e,

Art Unit: 1733

7d and 7c have varying width along their radial extent. To which of these varying widths does the claimed "full width" correspond?

4) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Ladouce

6) **Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ladouce (US 5798076).**

Ladouce discloses vulcanizing a tire having sidewalls in a mold comprising sector 4, a side support 10 and spirally wound strip 20. At col. 3 lines 1-5, Ladouce teaches forming a clearance J (figure 3) between the convolutions of the strip 20 sufficient to assure a perfect venting at all points of the side shell 1 of the mold. In figure 1, Ladouce illustrates the tire as being a pneumatic tire. The claimed sidewall portions, bead portions and tread portion are inherent in Ladouce's tire. In any event: It would have been obvious to one of ordinary skill in the art to provide the tire with sidewall portions, bead portions and tread portion since a tire having sidewall portions, bead portions and tread portion is taken as a well known / conventional type of tire in the tire art.

As to the venting gap being formed between two or more sub-rings of a side ring portion, Ladouce teaches that hoops of different diameters can be used as an alternative to the spirally wound strip. See col. 3 lines 28-30. The sub-rings read on the hoops.

As to the venting gap formed "... to extend across the full width of the side ring portion and open to an outside of the mold", the venting gap in Ladouce extends across the "full width" of the hoops (sub-rings) and this venting gap is "open to an outside of the mold" via holes in the support 10 (see col. 3 line 61 to col. 4 line 3). The recitation of "... to extend across the full width of the side ring portion and open to an outside of the mold" fails to exclude the support 10 of Ladouce or the support illustrated but not numbered in applicant's figure 3.

Christof

7) Claims 1-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christof (US 5141424) in view of Ladouce (US 5798076) and optionally at least one of Youngblood et al (US 3467989) and Japan '929 (JP 8-47929).

Christof discloses a vulcanization mold comprising side portion rings, bead portion rings and a tread ring comprising segments (a series of sectors 30). See figure 1. Also, Christof shows the side portion ring and bead portion ring as being "integrally united". See illustration of bolts in figure 1.

As to claims 1 and 2, it would have been obvious to one of ordinary skill in the art to provide Christof's tire mold with the claimed venting gap between two or more sub-rings of a side ring portion such that the venting gap extends (a) over a full

circumference of the side portion ring, (b) extends across the full width of the side ring portion and (c) opens to an outside of the mold in view of (1) Ladouce's suggestion to form a continuous circumferentially extending clearance J (between adjacent convolutions of a strip 20 or between hoops of different diameter) and to evacuate air from the clearances and through holes / evacuation paths in a support to assure venting and thereby prevent a molding defect caused by imprisoned air between the tire and optionally (2) Youngblood et al's suggestion to form a continuous circumferential groove at the junction between a side portion 2a, 2b and a bead portion 6a, 6b of a tire mold to prevent gas from being trapped between the tire and the inner mold surface and/or Japan '929's suggestion to shape the inner side of a tire mold so as to define a pair of circumferentially extending depressions connected to vent holes 12, 13 (see figure 2) to smoothly discharge air existing between the tire and the mold and thereby avoid a rubber deficit requiring discarding of the tire (see machine translation). As to Youngblood et al, it is emphasized that Youngblood et al recognizes that the use of circumferential venting grooves permits elimination of hundreds of vent holes. This benefit corresponds to applicant's disclosed benefit at specification page 2 lines 28-29.

Hence: Christof disclose the basic structure of the claimed mold. Although Christof does not recite a venting gap, the secondary art to Ladouce and the optional Youngblood and/or Japan '929 provide ample motivation to provide the tire mold of Christof with a venting gap to prevent the art recognized problem of trapped air between the tire and the mold - only the expected results (prevention of defective molded tires)

Art Unit: 1733

being obtained. The claimed venting gap reads on the clearance J suggested by Ladouce.

As to the venting gap formed "... to extend across the full width of the side ring portion and open to an outside of the mold" (claims 1 and 2), the venting gap in Ladouce extends across the "full width" of the hoops (sub-rings) and this venting gap is "open to an outside of the mold" via holes in the support 10 (see col. 3 line 61 to col. 4 line 3). The recitation of "... to extend across the full width of the side ring portion and open to an outside of the mold" reads on the clearance J suggested by Ladouce, which extends across the full width of the sub-rings (i.e. the hoops).

As to claim 1, the claimed sidewall portions, bead portions and tread portion are inherent in Christof's tire. In any event: It would have been obvious to one of ordinary skill in the art to provide the tire with sidewall portions, bead portions and tread portion since a tire having sidewall portions, bead portions and tread portion is taken as a well known / conventional type of tire in the tire art.

As to the dependent claims: As to claims 3 and 4, the claimed position of the venting gap would have been obvious in view of the various locations for venting suggested by Ladouce and optionally Youngblood and/or Japan '929. As to tire structure described in 3 and 4, a pneumatic tire having a "bead guard" and a turnup end is taken as well known / conventional. As such, it would have been obvious to shape the inner surface of Christof's mold so that it can form such a well known / conventional tire so that the tire made using the mold advantageously has a bead guard. As to claim 5, the claimed clearance of 10-30 micrometers is suggested by Ladouce (at col. 3 line 7,

Art Unit: 1733

Ladouce suggests a clearance of less than 0.03 mm (less than 30 micrometers)). As to claim 6, it would have been obvious to add the claimed fine grooves since Youngblood suggests further facilitating venting by using radially extending sidewall flutes 15 in communication with circumferential groove 9a. As to claim 7, note the suggestion from Youngblood et al to vent between a side portion 2a, 2b and a bead portion 6a, 6b of a tire mold and Christof's integrally united rings. As to claim 9, note Japan '929's suggestion to form the "circumferentially extending depressions" which are illustrated as being generally triangular in figure 1.

Allowable Subject Matter

8) **Claims 8 and 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.**

Claims 11-14 are allowed.

Remarks

9) Applicant's arguments with respect to claims 1-3 and 5-10 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 6-7-04 and entered per the RCE filed 8-9-04 have been fully considered but they are not persuasive.

With respect to "... to extend across the full width of the side ring portion and open to an outside of the mold", note the new 112 second paragraph rejection and the examiner's holding that this language reads on the full width of the clearance J suggested by Ladouce and fails to exclude a support 10 as disclosed by Ladouce.

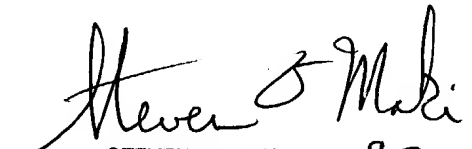
Art Unit: 1733

10) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki
September 7, 2004


STEVEN D. MAKI
PRIMARY EXAMINER
~~GROUP 1300~~
AU 1733 9-7-04